NEWSLINK INDIANA

High School students put math, science and technology on the road

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Published: 04/15/2006, 19:18:50
Last Updated: 04/24/2006, 15:47:58

HAGERSTOWN, Ind. (NLI) - Hagerstown high school students are using math, science, and technology to build on real-life situations by constructing a car from scratch. In just ten days they'll take their "super mileage vehicle" to the Indianapolis Raceway Park to see how it rolls in a state-wide competition.

• Students are about halfway done with their "super mileage vehicle" for this year's competition. (NLI/Adam Sturm)

"We're creating a real-world scenario that helps hopefully prepare them for their future careers," said Dave Hobson, a technology education teacher at Hagerstown Jr./Sr. High School.

Students design and build the vehicle with a goal of completing the most miles on the least amount of gas. They start out with prototypes that are tested in a wind tunnel to choose the best design; then they start constructing the real thing.

The class is divided into groups and work on different systems - such as the steering, chasse or braking systems. According to Hobson, this is where math and science is a necessity.

• Each student has a different role in building the car, but according to Hobson, the project is designed so students work as a team. (NLI/Adam Sturm)

"It gives them a focus to apply it," he said. "You know they're calculating rolling friction, aerodynamics of the structure ... so we're doing a lot of neat things to try and get together a project that will hopefully make it."

To make it - a car must travel at least 10 miles in 25 minutes during a qualifying round. They will compete in qualifying rounds at the Indiana Mathematic Science and Technology Education Alliance (IMSTEA) Super-Mileage Challenge April 23 - and if they make it, will advance to full-competition the next day.

Last year, the team did not qualify; but, in their second year of competition, freshman and car designer Kurtis Grandison said they have a lot more supplies and a lot more time - and that the competition is growing more and more each year.

"(We do it) just to see what different schools would come up with, different ideas. They started out just two by fours nailed together and then now they're spending $10,000 and $15,000 on a

car," Grandison said. "It's just changing a lot."

Although the team is not spending anywhere near $10,000 on their car, with less than two weeks left to go, Hobson is confident.

"You create a team, and the project draws everybody together," he said. "I'm nervous, obviously, but we're light years ahead of where we were last year."

According to both teacher and student, this project is a little extraordinary.

"We get to work with different stuff like polycarbonate," said sophomore Matt Hine, who is in charge of building the car's body. "Normally we just work with wood. So this is a lot better."

"I would describe it as challenging, rewarding, and an excellent opportunity... it's not just a hammer and nails and putting screws together... they're looking at aerodynamics, (and) they are looking at the different systems that are going to make this vehicle work," said Hobson.

The car uses the same systems that would go into a standard vehicle. Hobson enjoys teaching technology education because, he said, it is a fascinating and valuable opportunity.

"We can take a project and focus on the systems so they're learning the concept and not just the project. And the systems and the concepts that we teach are universal."

On the track, student drivers start their car at full force, and then coast for as long and fast as they can repeatedly. Last year, the winning vehicle ran 1,015 miles on just one gallon of gas; around 30 schools competed.
